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(71)Applicant : FUJITSU LTD
NIPPON TELEGR & TELEPH
CORP <NTT>

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(72)Inventor : SAWAE SHINYA
KIKUCHI EIJI
MIURA KAZUNORI
KOBAYASHI MASAHIRO
FUKUSHIMA AKIRA
YAMADA SATORU
FUKUDA MITSUO
ICHIKAWA FUMIO

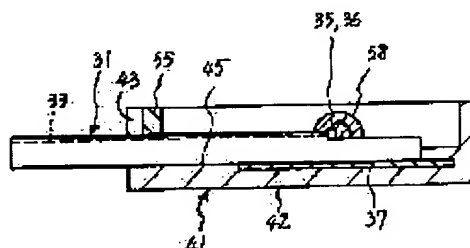
(54) OPTICAL MODULE

(57)Abstract:

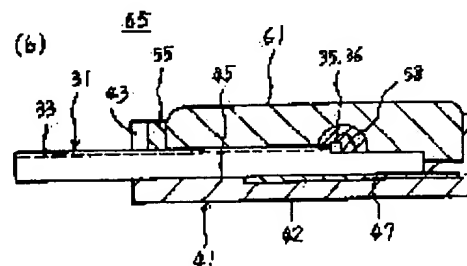
PROBLEM TO BE SOLVED: To prevent optical coupling from being hindered by the covering of a synthetic resin in a later stage by covering the optical elements on a substrate and the parts of the optical transmission lines to be optically coupled with the optically transparent synthetic resin.

SOLUTION: The optically transparent synthetic resin 58 is supplied to provide covering including the optical elements 35, 36 on the first substrate, the parts near bonding pads 37 for junction and the top of a waveguide 33. A covering material 61 is injected to cover the first substrate 31 part into the inside on the box type substrate 42 of the second substrate 41 after curing of the synthetic resin 58 and is cured by heating to form the covering layer. Short fibers are intimately mixed with this covering material 61 in order to control the coefft. of linear expansion after the curing. The coefft. of linear expansion is made to coincide with the coefft. of linear expansion of the box type substrate 42. The peripheries including the optical elements 35, 36 on the substrate 31 are covered with the optically transparent synthetic resin 58, by which the intrusion of the covering material 61 is averted and the optical coupling of the respective optical elements 35, 36 and the waveguide 33 is well executed.

(a)



(b)



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